

CORRECTED
VERSION*

PCT

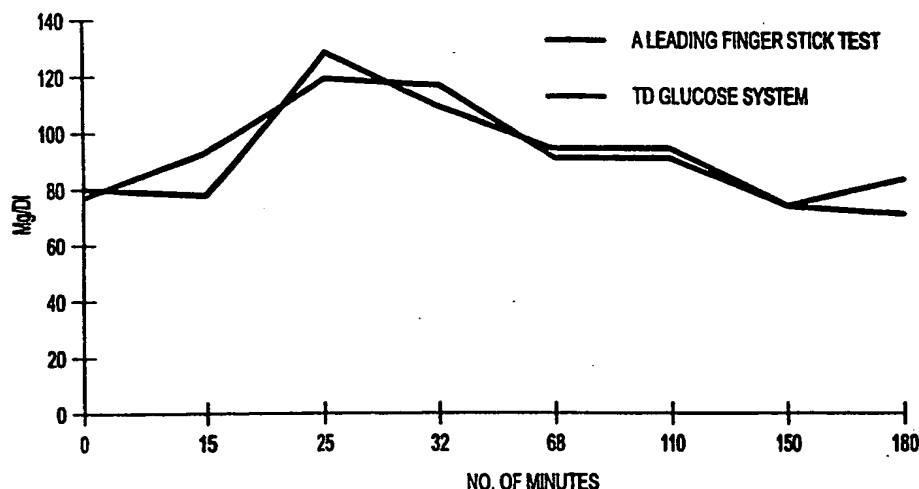
WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : G01N 33/66, 33/94, A61B 10/00, 5/00		A1	(11) International Publication Number: WO 99/13336
			(43) International Publication Date: 18 March 1999 (18.03.99)
(21) International Application Number: PCT/US98/19190		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).	
(22) International Filing Date: 11 September 1998 (11.09.98)			
(30) Priority Data: 08/929,262 11 September 1997 (11.09.97) US			
(71) Applicant (for all designated States except US): TECHNICAL CHEMICALS & PRODUCTS, INC. [US/US]; 3341 Southwest 15th Street, Pompano Beach, FL 33069 (US).			
(72) Inventors; and (75) Inventors/Applicants (for US only): ARONOWITZ, Jack, L. [US/US]; 3341 Southwest 15th Street, Pompano Beach, FL 33069 (US). MITCHEN, Joel, R. [US/US]; 3341 Southwest 15th Street, Pompano Beach, FL 33069 (US).			
(74) Agents: MANSO, Peter, J. et al.; Jenkins & Gilchrist, P.C., Suite 1800, 1100 Louisiana, Houston, TX 77002 (US).			
		Published With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.	

(54) Title: NONINVASIVE TRANSDERMAL SYSTEMS FOR DETECTING ANALYTES



(57) Abstract

The present invention relates to noninvasive transdermal systems and methods for analyte extraction from a biological fluid within or beneath the skin, such as interstitial fluid, and detection of the analyte. More particularly, the present invention relates to noninvasive transdermal patches comprised of a wet chemistry component and a dry chemistry component. The wet chemistry component is a liquid transfer medium in the form of a gel layer for the extraction and liquid bridge transfer of the analyte of interest from the biological fluid within or beneath the skin to the dry chemistry component. The dry chemistry component is a super sensitive or conditioned membrane carrying a reagent system for interacting with the analyte of interest to generate an indicator molecule, e.g., color change, to confirm detection of the analyte, and methods of use thereof. The indicator molecule may be visually observed by the individual user or observed by an electronic interpretation component, such as a reflectance spectrophotometer for detection. A particular analyte of interest which may be detected accurately, reliably and quantitatively in accordance with the present invention is glucose. The noninvasive transdermal systems of the present invention are low in-cost and suitable for convenient use by non-medical personnel.